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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,633	05/14/2001	Richard B. Olsen	060967-0009	1415

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MORGAN LEWIS & BOCKIUS LLP
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EXAMINER

MILEF, ELDA G

ART UNIT	PAPER NUMBER
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3692

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/855,633

Applicant(s)

OLSEN ET AL.

Examiner

Elda Milef

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 1-9, 15, 16, 21-24, 33 and 38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-14, 17-20 and 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Information Disclosure Statement

1. There are numerous references to non-patent journal articles referred to in the specification. In order for these references to be considered on their merits, they must be in a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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2. Claims 10, 12-15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard (US Patent No. 6,016,483) in view of Kane (US Patent No. 6,317,728).

Re claim 10: Rickard disclose:

(a) receiving price data for an asset over one or more computer networks (The opening prices and corresponding volatilities, once determined by the present invention, can be output to market makers...)-see col.7 (13-17) and col. 8 (53-65);

(b) receiving current system position information- The Examiner is interpreting this limitation to mean the actual position of the market maker as disclosed by Rickard in col. 7 (18-23);

(c) storing said received asset price data and said current system position information in a computer-readable medium (A storage device 3 is coupled to the controller2. The storage device 3 can comprise a database for storing information received from the market makers and for storing the results of processing...)-see col. 8, (46-52);

(e) calculating trade recommendation regarding said asset based on said trade recommendation information from each of said trading sub-models (Using these five factors as input to a theoretical option pricing model, such as, for example, the Black-Scholes model or the Cox-Ross-Rubenstein model, one can

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determine the theoretical fair option value. Option traders use the theoretical option value as a pricing guide...-see col. 3 lines 37-44;

Although Rickard calculates trade recommendation as disclosed in step (e) above, Rickard does not specifically disclose (d) calculating trade recommendation information from each of a plurality of trading sub-models is based on a different time of day. Kane however, teaches an Intra-Day trading system wherein a plurality of intelligent agents make recommendations as to the disposition of a respective security.- see col. 5 lines 36-55; col. 8 lines 24-27; real-time monitoring and executing -see col. 10 lines 15-25.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard to include a plurality of trade recommendations provided by a plurality of intelligent agents in real time is taught by Kane in order to provide the user with information in real time reflecting the changes in market price of an asset in order to aid the user in analyzing investments.

Re claim 12 & 13: Rickard discloses (factors that influence an option's price) -see cols. 3-4, (Theoretical option pricing models ...reflect option's sensitivity...), and cols. 6-7 ("volatilities").

Re claims 14: Rickard discloses (Theoretical option pricing models produce values that reflect an option's sensitivity to changes in one of the five quantifiable factors...)-see col. 3, lines 51-53 and cols 3-11.

Re claim 17: Rickard disclose:

wherein each sub-model comprises:

- (a) a price collector component-see col. 8 (53-58) ;
- (b) a price filter component -see col. 9 (3-21), Fig. 2 (Controller 2).
- (c) a price database component -see col. 8 (47-52);
- (d) a gearing calculator components ("The present invention a set of opening implied volatilities that set a reasonable compromise between these extremes. From these implied volatility value(s), the corresponding price is determined for each option series. The present invention also enables an exchange (or other entity) to determine the compromise point between these two positions. Alternatively, this compromise point can be market driven at the opening by a number of predetermined variables and/or be required to fall

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within specified bounds.") -see col. 7, (1-9) and cols. 10, line 6- col. 17.

(e) a deal acceptor component-see col. 17, (60-61);

(f) a book-keeper component-see Fig. 2, col. 9(41)-col. 17, and (various controller functions).

3. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard in view of Kane as applied to claim 10 above, and further in view of Wallman (US Patent No. 6,360,210).

Re claim 11: Although Rickard disclose using more than one sub-model ("theoretical option pricing model, such as, for example, the Black-Scholes model or the Cox-Ross-Rubenstein model")-see col. 3, Rickard and Kane do not explicitly disclose wherein 24 sub-models are used. Wallman however, teaches using various pricing models (All this analysis is known and part of various capital asset pricing models, modern portfolio theory models, value-at-risk and sensitivity models used for valuing portfolios of securities derivative and other instruments, etc.)-see col. 10 lines 3-7. Similarly, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773

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(Fed. Cir. 1985), see MPEP §2144.05. Therefore, It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard and Kane to include many pricing models in an analysis as taught by Wallman in order to assist the user in managing their investment portfolio by reducing risk.

4. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard and Kane as applied to claim 10 above, and further in view of Black (US Patent No. 6,012,042.

Re claim 18: Rickard and Kane disclose the step of calculating a trade recommendation using a plurality of trading sub-models as in claim 10, and regarding said asset based on said trade recommendation information from each of said trading sub-models-col. 3 lines 37-44.

Rickard and Kane do not explicitly disclose that the calculation is performed by summing the weighted trade recommendations of the sub-models. Black however, teaches (The technical and fundamental data are therefore preferable variably weighted and a user can customize their analysis.)-see col. 10 lines 65-67.

Black uses an analysis process engine which processes disparate data(fundamental and technical data) in accordance

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with a set of rules, combines the data into a uniform format, and forwards the results to the user for further analysis.-see col. 3. The user can then customize the weights given to each of the data in order to customize the analysis.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard and Kane to include combining the results of fundamental and technical data analysis into a uniform format and weighing the results of the analysis in order for the user to customize the analysis data to suite their investment styles and objectives.

Re claims 19 & 20: Rickard and Kane do not disclose wherein the step of calculating a trade recommendation regarding said asset based on said trade recommendation information from each of said trading sub-models is performed by summing the weighted trade recommendations of N sub-models within the last T hours, where N and F are positive integers and dividing that sum by the total number of sub-models. Black however, teaches (Daily, weekly, monthly and yearly charts show the progress of the stock over time, and conventional indicators can be used on the combined or merged data to better illustrate the results produced by the security analysis system.-see col. 9 lines 59-63) and (The technical and fundamental data are therefore preferably variably weighed, and a user can customize their

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analysis-see col. 10 lines 65-67), also col. 11 lines 1-17. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard and Kane to include combined data analysis, variably weighing the combined data, and displaying the results of the combined data showing the change in valuation of an asset over time as was taught by Black in order to provide the user with a unified format for analysis of an asset's performance.

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard and Kane as applied to claim 10 above, and further in view of Stewart (US Patent No. 6,195,103).

Re claim 25: Although Rickard disclose theoretical option pricing models that produce values that reflect an option's sensitivity to changes in one of five quantifiable factors. The sensitivities include measures of change in option values in relation to a change in time, price, and volatility -see col. 3 line 29- col. 4 lines 28, Rickard and Kane do not specifically disclose calculating the price change, volatility data calculated at regular intervals of a basic grid interval.

Stewart however, teaches a Volatility Plot using time series data to graph stock prices, time, and volatility. -see cols. 5-6, col. 3 lines 1-8 also, see col. 1, lines 46-67, col.

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2, lines 58-67. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard and Kane to include a graphical display of time series data representing the variables of price change, time and volatility as taught by Stewart in order to provide the user with data in a form that permits rapid and accurate evaluation of changes in the data from one time to the next.

6. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard, Kane, and Stewart as applied to claim 25 above, in further view of Makivic (US Patent No. 6,061,662).

Re claims 26 & 27: Rickard, Kane, and Stewart do not explicitly disclose wherein volatility is measured as a mean of absolute log price change, and wherein the mean is taken over the last M consecutive observation of log price change over the basic grid interval, where M is a positive integer. Makivic however, teaches (The system includes means for computing implied volatility and sensitivity with respect to volume, as discussed above, using the Black-Scholes model and current market prices. The user can mix historical and implied volatility to obtain estimates of future volatility. The user can also experiment with volatility in a more sophisticated

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fashion than with previous known systems, since, in addition to the historical, implied, or mixed volatility estimate, the system implements the following possibilities for volatility dynamics assuming Gaussian and Cauchy processes.

Geometric random walk stochastic volatility; Volatility defined by a generalized autoregressive conditional heteroskedastity (GARCH) process; Deterministic time-dependent volatility scenarios; Deterministic volatility defined as a polynomial function of underlying price. These choices for volatility modeling are state-of-the-art and also believed to be impossible to implement by any other known method in a scenario-type analysis.-see col. 17 lines 5-23.) It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rickard, Kane, and Stewart to include calculating volatility using historical, implied, or mixed volatility estimates as was taught by Makivic so that the user can perform quantitative and statistical analysis of an asset.

Response to Arguments

7. Applicant's arguments with respect to claims 10-14, 18-20, 25-27 have been considered but are moot in view of the new ground(s) of rejection.

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In response to the argument that Rickard does not disclose a price filter as in claim 17, the controller component accepts orders from an order entry system and therefore it is obvious that any order that is not within the norm would be identified. Furthermore, Kane discloses a system that ensures that there is a valid open price for the security-see col. 9 lines 49-51 and it would have been obvious to one having ordinary skill at the invention was made to check for price validity as taught by Kane in order to ensure accuracy of trade recommendations.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Garman (US Patent No. 5,926,822)-cited for its reference to a real time filter identifying unacceptable real-time data in particular the real price of stock.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this

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action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elda Milef whose telephone number is (571)272-8124. The examiner can normally be reached on Monday -Thursday 8:30 am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached on (571)272-6777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000..



Elda Milef
Examiner
Art Unit 3692



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SUPERVISORY PATENT EXAMINER